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Claims

1. A fluid mixing device, for the continuous mixing of two or more fluids, comprising:

- a mixing chamber having fluid contact surface means (110, 115, 123a) defining an internal chamber region (109);

- at least one fluid inlet means (132) provided in said fluid contact surface means (110, 115), for feeding at least one fluid into said chamber region (109);

- at least one fluid outlet means (130) provided in said fluid contact surface means (110, 115, 123a), for feeding fluid out of said chamber region (109);

- fluid mixing means (118) within said chamber region (109), capable of inducing mixing of two or more fluids within a mixing region;

characterised in that said chamber region (109) has a configuration which substantially corresponds to the configuration of said mixing region.

2. A fluid mixing device according to claim 1, characterised in that said mixing chamber (109) comprises an outer fluid containment portion (113, 114) and an inner core (123), a first area (110, 115) of said fluid contact surface means being formed on said fluid containment portion and a second area (123a) of said fluid contact surface means being formed on said inner core.

3. A fluid mixing device according to claim 2, characterised in that said first area (110, 115) of said fluid contact surface means has a substantially spherical form.

4. A fluid mixing device according to claim 2 or 3, characterised in that said at least one fluid inlet means (132) is provided in said first area (110, 115) of said fluid contact surface means.

5. A fluid mixing device according to claim 2 or 3, characterised in that said at least one fluid outlet means (130) is provided in said first area (110, 115) of said fluid contact surface means.

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6. A fluid mixing device according to claim 2 or 3, characterised in that said at least one fluid inlet (132) means and said at least one fluid outlet means (130) are provided in said first area (110, 115) of said fluid contact surface means.

5 7. A fluid mixing device according to claim 6, characterised in that said at least one fluid inlet means (132) is located below said at least one fluid outlet means (130).

8. A fluid mixing device according to any one of claims 1 to 7, characterised in that said mixing chamber is further provided with pressure control means, for controlling the pressure within said chamber region in relation to the pressure externally of said chamber.

10 9. A valve means for use in a fluid mixing device according to claims 1 to 8, characterised by comprising:

- a body portion (135, 158) having at least one fluid entrance aperture (159), for allowing fluid to flow into said body portion;

- a fluid exit aperture (136), for allowing fluid to flow from said body portion;

15 - entrance aperture sealing means (162) having biasing means (173) for biasing said entrance aperture sealing means into a sealing position in which said fluid entrance aperture is sealed; and

- exit aperture sealing means (146) having biasing means (157) for biasing said exit aperture sealing means into a sealing position in which said fluid exit aperture is sealed;

20 said entrance and exit aperture sealing means (162, 146) being adapted to allow passage of fluid respectively into and out of said body portion, according to a specified pressure differential between the pressure externally of said entrance aperture (159) and the pressure externally of said exit aperture (136).